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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/610,437	07/03/2000	Sergio Bosso	P100-080	3695

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999 PEACHTREE STREET  
ATLANTA, GA 30309-3915

EXAMINER

PAK, SUNG H

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/610,437

Applicant(s)

BOSSO ET AL.

Examiner

Sung H. Pak

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 16-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10, 21-25 is/are allowed.
- 6) ☒ Claim(s) 11, 12 and 26 is/are rejected.
- 7) ☒ Claim(s) 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicants' amendment filed 5/9/2003 has been considered by the examiner.

Although applicants' arguments regarding the patentability of pending claims 1-10, 21-25 are convincing, claims 11-15 and 26 are still unpatentable over the prior art of record. Please see remarks for further details.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-12, 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Gopalakrishnan (US 5,787,211) as discussed in the previous office action.

Gopalakrishnan discloses a resonant optical modulator with all the limitations set forth in the claims, including: an electro-optical substrate (Fig. 2); an optical waveguide having variable index of refraction in response to modulating signals supplied by active modulator electrode at a resonant frequency (column 7 lines 7-60); an electrical structure formed on the substrate, closing the transmission line on itself such that the circuit is either open or short-circuited and the impedance of the terminal being effectively matched to that of the electrode so as to eliminate the effect of impedance

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mismatch between the signal source and the electrode (column 3 lines 36-42; column 6 line 62-column 7 line 6); at least one of the modulator electrode being connected to ground (Fig. 2); such modulators having typical operating resonant frequency of around 2GHz (column 2 line 53).

***Allowable Subject Matter***

Claims 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: These claims contain allowable subject matter stated in the previous office action.

Claims 1-10, 21-25 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: An optical modulator is known in the art. A resonant optical modulator is also known in the art. A resonant optical modulator containing additional structures for matching the impedance of the modulating signal source to the impedance of the modulator is taught by Gopalakrishnan (US 5,787,211) as discussed in this office action and previous office actions. However, none of the prior art fairly teaches or suggests, such a resonant optical modulator comprising additional electrical structures formed on the same substrate as the modulating electrodes and optical waveguide, in which the

electrical structure couples between the interface port of the modulating signal electrode and the grounding modulator electrode in order to match impedance between the signal source and the modulator, as claimed in the instant application.

### ***Remarks***

Claims 11-12, 26:

On page 3 of the applicants' response, it is argued that " Independent claim 11 recites similar features as claim 2 and is considered allowable over Gopalakrishnan for at least the same reasons." However, the examiner respectfully argues that claim 11 does not recite the particulars of claim 2, and therefore, it is not allowable.

Specifically, claim 2 recites "an electrical structure, formed on the substrate and coupled to the interface port and the electrode, an impedance of the optical modulator including the interface port and the electrical structure being substantially equal to the impedance of the signal source." However, claim 11 is missing such features.

Gopalakrishnan reference cited in this office action and the previous office action shows means, coupled to the means for providing and the means for modulating, for causing an impedance of the optical modulator to be substantially equal to the impedance of the signal generating means, in which the means for causing is formed on the substrate (Fig. 2). Therefore, the rejection of claims 11-12, 26 based on Gopalakrishnan is considered proper.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

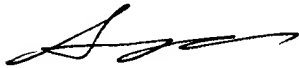
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

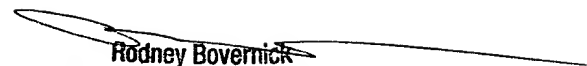
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Sung H. Pak  
Examiner  
Art Unit 2874

sp  
July 15, 2003



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